

# Postgraduate Diploma

## Management of the Patient with ST-Segment Elevation ACS





## Postgraduate Diploma Management of the Patient with ST-Segment Elevation ACS

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits : 24 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-management-patient-st-segment-elevation-acs](http://www.techitute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-management-patient-st-segment-elevation-acs)

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# 01

# Introduction

ACS with ST-segment elevation is one of the most complex pathologies in cardiology due to its different clinical presentations and the serious consequences associated with erroneous or late diagnosis. Constant research has led to advances in treatment and assessment techniques, allowing specialists to be more and better prepared. However, there are times when keeping up to date with the latest developments in this field is incompatible with work life, which is why this program was created. With a fully online program, available 24 hours a day, the graduates will have access to the most up-to-date content from wherever and whenever they wish, allowing them to renew their knowledge without having to spend less time with their patients.





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*Become an expert in Management of the Patient with ST-Segment Elevation ACS thanks to this comprehensive program and renew your knowledge in less time than expected”*

ST-segment elevation ACS is a condition that worries not only cardiologists, but also primary care physicians and emergency physicians. This heart disease is as common as it is serious and affects millions of patients worldwide, some with risk factors or heredity and others with no previous pathology. Regardless of the causes, a correct, but above all, rapid diagnosis can have a positive influence on the patient's health and that is why these specialists need to keep up to date with the latest developments in techniques and treatments.

With the aim of updating and expanding their knowledge based on the most modern research, TECH presents the Postgraduate Diploma in the Management of Patients with ST-Elevation ACS, a comprehensive program that covers everything from the patient arrival and pre-hospital evaluation in the emergency department to management in the Coronary Unit, with emphasis on reperfusion therapies and arrhythmias in these patients.

The specialist will be able, through this program, to get up to date on the latest pharmacological treatment in the initial phase, as well as on the most recommended complementary tests after admission. In addition, the program focuses on the most effective strategies currently available to reduce heart attack severity: fibrinolysis and primary angioplasty.

A 100% online degree with which, in just six months, you will become an expert in this field. For this purpose, you will not only have the best and most complete syllabus, but you will also have at your disposal a teaching team of experts in cardiology and a lot of complementary material with which to continue expanding concepts. Everything is available from the beginning of the program and 24 hours a day, so that the graduates set the time and thus, get the most out of this program.

This **Postgraduate Diploma in patients with with ST-Segment Elevation ACS** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Cardiology
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable electronic device with an Internet connection



*A qualification that will help you to implement the most modern pharmacological treatments for ACS in your daily life"*

“*Having internalized the hemodynamic support measures during primary angioplasty is as difficult as it is necessary. With TECH's pedagogical methodology you will be able to remember and apply them without complications”*

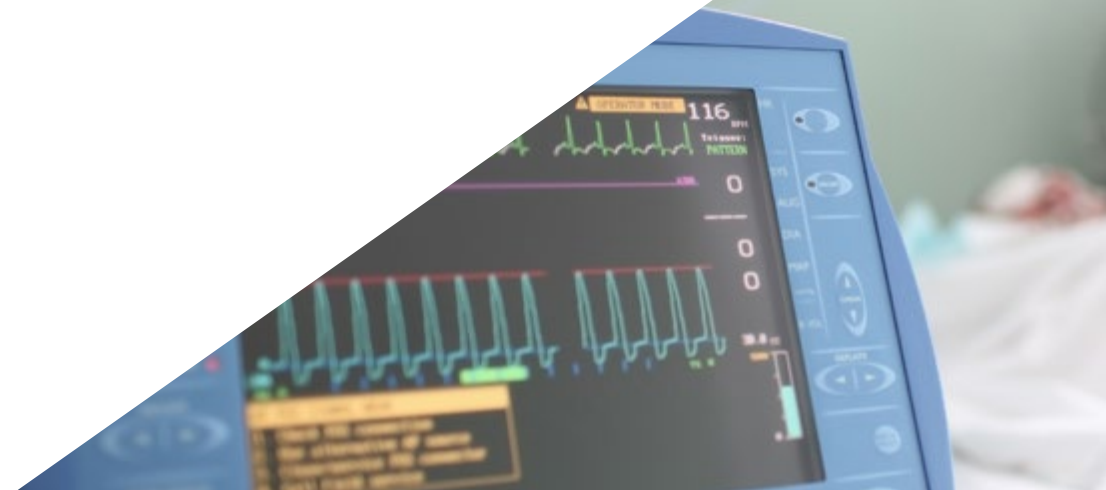
The program's teaching staff includes professionals from sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professionals must try to solve the different professional practice situations that are presented throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

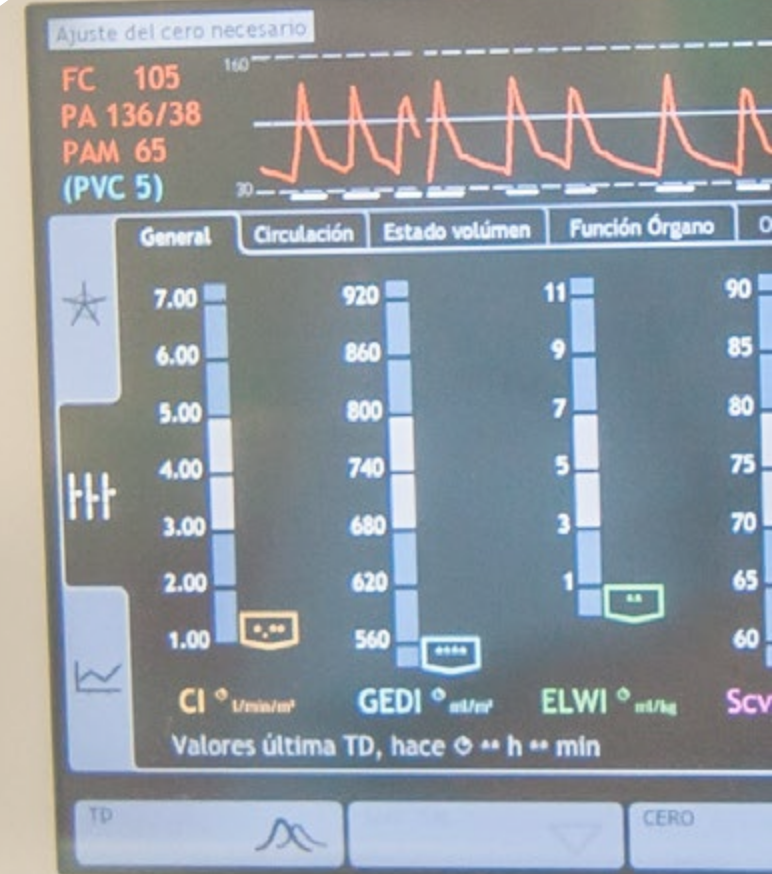
*You will have access to real clinical cases in the virtual classroom that will allow you to put into practice the content developed during the program.*

*Update the concepts that will allow you to evaluate, in a more effective way, the patient with ST-Segment Elevation ACS in the pre-arrival phase to the hospital.*



# 02 Objectives

Although obtaining a Postgraduate Diploma may seem a difficult objective to achieve, TECH will provide the graduates with the keys to achieve it. The aim of this program is to ensure that the specialists take advantage of the knowledge they already have, offering them the necessary tools to update and increase it according to the current demand in the cardiology field. In this way, not only will they be up to date with the latest developments in the Management of Patients with ST-Segment Elevation ACS, but they will also be able to face clinical situations with the total and absolute confidence of handling all the information they need to fulfill their role in the most professional manner possible.







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The objective of TECH is not only that you obtain a Postgraduate Diploma, but that you have the most up-to-date and complete knowledge”



## General Objectives

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- ♦ Delve into Acute Coronary Syndrome (ACS) starting with its pathophysiology and its importance as one of the main causes of death in civilized countries
- ♦ Professionalize skills in the assessment and differential diagnosis of chest pain in the emergency department understanding the value of the different complementary techniques available
- ♦ Adequately classify the patient's initial risk and the most appropriate prehospital treatment and monitor measures in the prehospital phase
- ♦ Internalize reperfusion therapies, their limitations, advantages and protocols, understand the great importance of ischemia time
- ♦ Diagnose and manage the mechanical and arrhythmic complications that can occur in this syndrome
- ♦ Implement appropriate treatment measures during the hospital phase and the value of Coronary Units
- ♦ Develop the value and structure of Cardiac Rehabilitation programs.
- ♦ Understand the treatments that have provided value in secondary prevention of these patients



*Medicine, like any science, is constantly evolving. Trust TECH and get up to date with the latest advances in cardiology and ACS”*





## Specific Objectives

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### Module 1. NSTEMACS 1. Clinical Picture, Presentation and Pre-Hospital and Emergency Assessment

- ♦ Develop knowledge in the different clinical presentations of NSTEMACS
- ♦ Evaluate the patient with ST-Segment Elevation ACS in the phase prior to arrival to the hospital
- ♦ Understand the electrocardiographic manifestations of this condition, its possible differential diagnoses and the evolutionary pattern over time
- ♦ Assess general treatment measures and initial monitoring and pharmacological treatment, as well as which treatments should not be used
- ♦ Internalize the importance of the decision of coronary reperfusion and activation of infarction code programs and the importance of timing and delays in this process

### Module 2. NSTEMACS 2. Patient Management in the Hospital. Coronary Unit

- ♦ Deepen the knowledge of the usefulness of the Coronary Units in the prevention and early treatment of the complications of NSTEMACS
- ♦ Recognize the antianginal, lipid-lowering and antithrombotic treatment to be implemented in patients with NSTEMACS
- ♦ Understand the most frequent mechanical complication of this entity, CHF, from the mechanistic, treatment and prognostic point of view
- ♦ Identify the rest of the potential mechanical complications (cardiac rupture, VSD and MI) and their incidence, treatment and prognosis

### Module 3. NSTEMACS 4. Limitation of Infarct Size. Reperfusion Therapies

- ♦ Recognize the time course of myocardial ischemic necrosis and understand the problem of ischemia time
- ♦ Assess the available strategies for reperfusion, fibrinolysis and primary angioplasty, their advantages and disadvantages
- ♦ Control the necessary material and protocols to perform fibrinolysis or primary angioplasty
- ♦ Know in detail the anticoagulant and antiplatelet therapy in the catheterization laboratory
- ♦ Describe a protocol for antiplatelet treatment in patients who also need to take anticoagulant drugs
- ♦ Internalize hemodynamic support measures during primary angioplasty
- ♦ Control the usefulness of regional reperfusion networks in the treatment of infarction

### Module 4. NSTEMACS Arrhythmias

- ♦ Understand the arrhythmia production mechanisms during ischemia
- ♦ Identify the main ventricular arrhythmias to be expected during NSTEMACS and their treatment
- ♦ Recognize the problem of out-of-hospital sudden death and primary ventricular fibrillation
- ♦ Assess which supraventricular arrhythmias are to be expected in this pathology and which antiarrhythmic medication are appropriate during infarction
- ♦ Control the indications for pacemaker implantation and electrical cardioversion
- ♦ Internalize the indications for implantation of implantable defibrillators and resynchronizers and their results

# 03

# Course Management

The teaching staff of this program is made up of a group of cardiology specialists with experience in leading hospitals and with an extensive career in different areas within this specialty. The human quality of this team, together with their experience, gives this Postgraduate Diploma a unique and professional touch, reflected in a syllabus composed not only of the most cutting-edge information, but also includes real clinical cases that they have had to face during their careers and that will enhance the practical aspects of the program.





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*You will have at your disposal individualized tutorials with the teachers in which you will be able to share criteria and doubts, as well as to debate on subjects of this field”*

## Management



### Dr. Botas Rodríguez, Javier

- ♦ Head of Cardiology Service, Alcorcón Foundation of the HU
- ♦ Director of the Cardiac Catheterization Laboratory at the Alcorcón Foundation University Hospital
- ♦ Director of the Cardiac Catheterization Laboratory at the Alcorcón Foundation University Hospital
- ♦ Associate Professor of Cardiology of the Degree in Medicine at the Rey Juan Carlos University
- ♦ Doctorate in Medicine (Magna Cum Laude) from the Faculty of Medicine at the Autonomous University of Madrid
- ♦ Residency and specialization in Cardiology at the Gregorio Marañón University Hospital
- ♦ Postdoctorate in Interventional Cardiology from Stanford University

## Professors

### Dr. Juárez Fernández, Miriam

- ♦ Cardiology Specialist
- ♦ Facultative Area Specialist of the Coronary Care Unit, Gregorio Marañón University Hospital Madrid
- ♦ Collaborating Doctor of Practical Teaching, Department of Medicine, Complutense University of Madrid
- ♦ Teacher of the Continuing Education Course "Practical Aspects in the Management of Atrial Fibrillation: Clinical Case Discussion"
- ♦ PhD at the Faculty of Medicine from the Complutense University of Madrid
- ♦ Degree in Medicine and Surgery from the Autonomous University of Madrid
- ♦ Specialty in Cardiology at the Gregorio Marañón General University Hospital. Madrid
- ♦ Member of the Spanish Society of Cardiology

### Dr. Awamleh García, Paula

- ♦ Assistant Physician in the Coronary Unit of the Cardiology Department of the University Hospital of Getafe
- ♦ Doctor Cum Laude in Medicine, Rey Juan Carlos University
- ♦ Master's Degree in Acute Cardiac Care, Menéndez Pelayo University
- ♦ Master's Degree in Cardiology from the Miguel Hernández University of Elche
- ♦ Expert in Electrocardiography, Catholic University San Antonio of Murcia
- ♦ Degree in Medicine and Surgery from the Complutense University of Madrid

### Dr. Martínez Losas, Pedro

- ♦ FEA of the Cardiology Service, University Hospital Infanta Leonor Madrid
- ♦ Degree in Medicine from the University of Alcalá de Henares. Madrid
- ♦ Specialist in Cardiology at the San Carlos Clinical Hospital in Madrid
- ♦ Sub-specialty in Acute Cardiac Care with a training grant from the SEC in the Acute Cardiovascular Care Unit at La Paz University Hospital Madrid
- ♦ Expert in Atrial Fibrillation from the University of Santiago de Compostela. Galicia

### Dr. Del Castillo Medina, Roberto

- ♦ Cardiologist Expert in Interventional Cardiology
- ♦ Specialist Doctor at Fundación Alcorcón University Hospital
- ♦ Researcher of the Infarction Code Working Group of the Interventional Cardiology Association
- ♦ Interventional Cardiologist at Sur Alcorcón Hospital of Quironsalud Group
- ♦ Physician in the Acute Cardiac Care and Post-Surgical Recovery Unit
- ♦ Interventional Cardiology Specialist at Montepíncipe Hospital
- ♦ Medical Specialist in Cardiology at San Rafael Hospital and Infanta Leonor University Hospital
- ♦ Master's Degree in Diagnostic and Therapeutic Electrophysiology, from the Complutense University of Madrid.
- ♦ Member of the Spanish Society of Cardiology

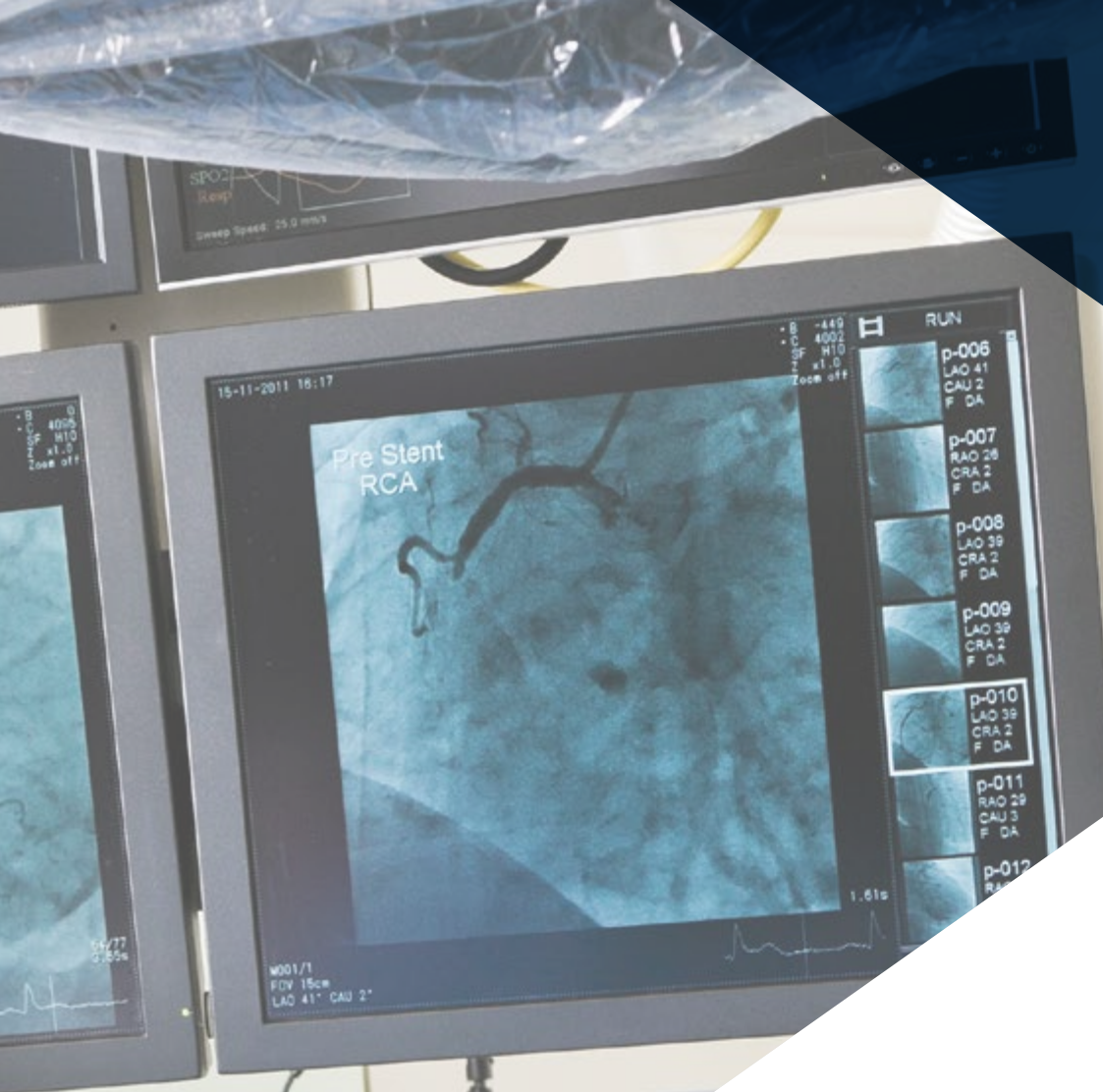
# 04

# Structure and Content

Using the Relearning methodology in which TECH is a pioneer, the teaching team has developed a complete and innovative program with which the specialists will be able to get up to date without having to invest extra hours in the study of the content. This facilitates the distribution of teaching hours, allowing more time to continue expanding their knowledge with additional material (videos, images, dynamic summaries, clinical cases, etc.) available in the virtual classroom.







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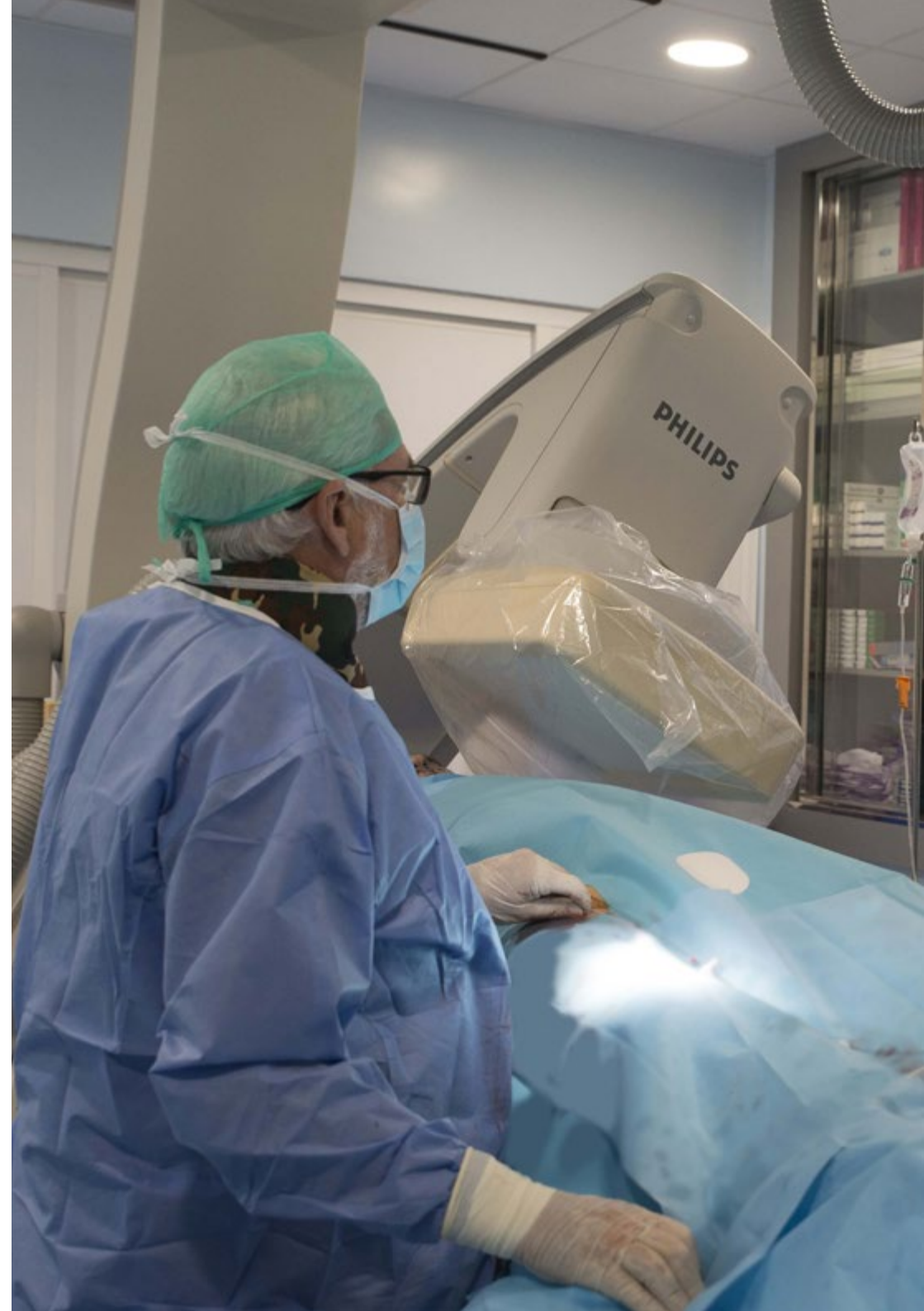
*The best option to learn more about the causes and prognosis of out-of-hospital sudden death is this Postgraduate Diploma”*

## Module 1. NSTEMACS 1. Clinical Picture, Presentation and Pre-Hospital and Emergency Assessment

- 1.1. Clinical Presentations of NSTEMACS
- 1.2. Out-of-Hospital Sudden Death Causes and Prognosis
- 1.3. Assessment of the Patient with NSTEMACS in the Pre-Hospital Phase and in the Emergency Department (Clinical and Physical Examination) Initial Risk Stratification
- 1.4. ECG in the Acute Phase of NSTEMACS and Correlation with Coronary Anatomy
- 1.5. ECG with ST Elevation. Differential Diagnosis
- 1.6. Evolving ECG Pattern in NSTEMACS
- 1.7. General Treatment Measures and Initial Monitoring, Why Is It Important?
- 1.8. Initial Pharmacological Treatment of NSTEMACS: Oxygen Therapy, Nitrates, Beta-Blockers
- 1.9. Pre-Hospital Antithrombotic Therapy: When and with What?
- 1.10. Indications for Coronary Reperfusion: The Problem of Timing

## Module 2. NSTEMACS 2. Patient Management in the Hospital. Coronary Unit

- 2.1. Role of the Coronary Care Unit, the Value of Monitoring and General Early Treatment Measures General Measures
- 2.2. Patient Stratification and Risk Scales
- 2.3. Complementary Laboratory Tests
- 2.4. Lipid-Lowering Drugs and Treatment Goals
- 2.5. Antianginal Drugs in NSTEMACS
- 2.6. Platelet Antiplatelet Aggregation in NSTEMACS
- 2.7. Anticoagulation Indications Anticoagulants
- 2.8. Complications of NSTEMACS: Chronic Heart Failure (CHF)
- 2.9. Complications of NSTEMACS: Cardiogenic Shock, Medical Treatment and Mechanical Support
- 2.10. Mechanical Complications of NSTEMACS: Cardiac Rupture, VSD and MI





### Module 3. NSTEMACS 4. Limitation of Infarct Size. Reperfusion Therapies

- 3.1. Myocardial Necrosis and Ischemia, the Problem of Ischemia Time
- 3.2. Strategies to Decrease Infarct Size: Fibrinolysis vs. Primary Angioplasty
- 3.3. Fibrinolysis, Advantages, Disadvantages and Protocols
- 3.4. Primary Angioplasty Technique and Requirements
- 3.5. Stents: Types and Results Thrombus Extractors?
- 3.6. Antiplatelet and Anticoagulation Treatment During PCI
- 3.7. Long-Term Anti-Aggregation Treatment
- 3.8. The Problem of Antiplatelet Treatment in Patients Who Also Take Anticoagulant Drugs Protocols
- 3.9. Hemodynamic Support During Primary Angioplasty Available Methods and Results
- 3.10. Infarction Code Programs and Regional Reperfusion Networks

### Module 4. NSTEMACS Arrhythmias

- 4.1. Ischemia as a Cause of Arrhythmias: Mechanisms
- 4.2. NSTEMACS Arrhythmias: EV, RIVA and TVNS (Meaning and Clinical Management)
- 4.3. Polymorphic and Monomorphic VT: Meaning and Treatment
- 4.4. VF and Out-of-Hospital Sudden Death in STEACS
- 4.5. Supraventricular Arrhythmias in NSTEMACS
- 4.6. Antiarrhythmic Medication Used in STEACS
- 4.7. Cardioversion and Electrical Defibrillation: Protocols
- 4.8. Bradyarrhythmias and Blockages in STEACS. Pacemaker Implantation Indications
- 4.9. Automatic Implantable Defibrillator: Indications, Results and Techniques
- 4.10. Cardiac Resynchronization, Indications and Outcomes

05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician's professional practice.

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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*





At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





**Expert-Led Case Studies and Case Analysis**

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Retesting**

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



**Classes**

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



**Quick Action Guides**

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 06 Certificate

The Postgraduate Diploma in Management of the Patient with ST-Segment Elevation ACS guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.





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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

This program will allow you to obtain your **Postgraduate Diploma in Management of the Patient with ST-Segment Elevation ACS** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

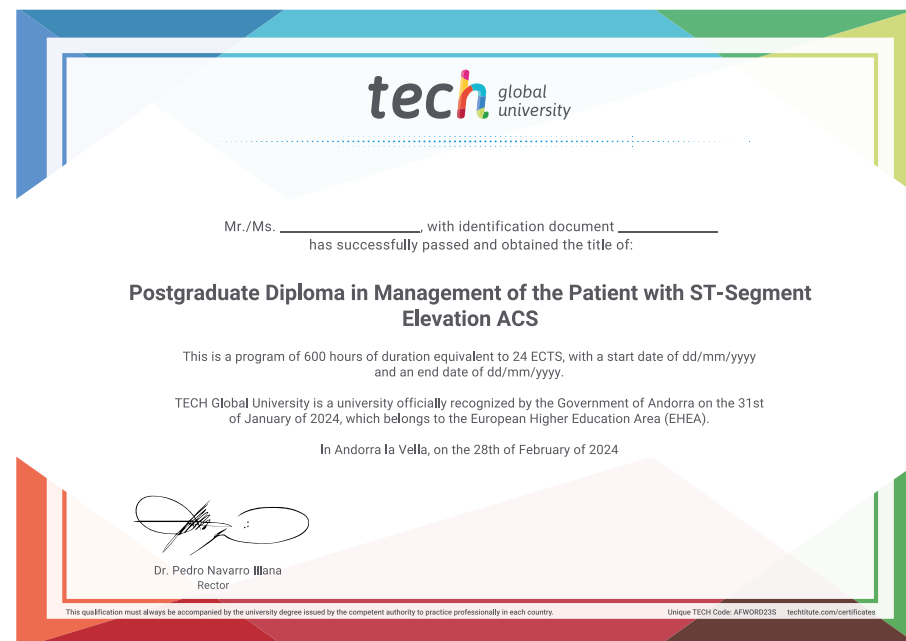
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Management of the Patient with ST-Segment Elevation ACS**

Modality: **online**

Duration: **6 months**

Accreditation: **24 ECTS**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge presentation  
online training  
development languages  
virtual classroom



**Postgraduate Diploma**  
Management of the Patient  
with ST-Segment Elevation ACS

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits : 24 ECTS
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Diploma

## Management of the Patient with ST-Segment Elevation ACS

